

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



August 3, 2004

Agenda ID #3790
Quasi-Legislative

TO: PARTIES OF RECORD IN RULEMAKING 01-08-028

This is the draft decision of Administrative Law Judge (ALJ) Gottstein. It will not appear on the Commission's agenda for at least 30 days after the date it is mailed. The Commission may act then, or it may postpone action until later.

When the Commission acts on the draft decision, it may adopt all or part of it as written, amend or modify it, or set it aside and prepare its own decision. Only when the Commission acts does the decision become binding on the parties.

Parties to the proceeding may file comments on the draft decision as provided in Article 19 of the Commission's "Rules of Practice and Procedure." These rules are accessible on the Commission's website at <http://www.cpuc.ca.gov>. Pursuant to Rule 77.3 opening comments shall not exceed 15 pages. Finally, comments must be served separately on the ALJ and the assigned Commissioner, and for that purpose I suggest hand delivery, overnight mail, or other expeditious method of service.

ANGELA K. MINKIN
Angela K. Minkin, Chief
Administrative Law Judge

ANG:hl2

Attachment

Decision **DRAFT DECISION OF ALJ GOTTSTEIN** (Mailed 8/3/2004)

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Examine the
Commission's Future Energy Efficiency Policies,
Administration and Programs.

Rulemaking 01-08-028
(Filed August 23, 2001)

**INTERIM OPINION: ENERGY SAVINGS GOALS FOR
PROGRAM YEAR 2006 AND BEYOND**

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INTERIM OPINION: ENERGY SAVINGS GOALS FOR PROGRAM YEAR 2006 AND BEYOND

1. Summary¹

The Energy Action Plan, adopted by this Commission, the California Energy Commission (CEC) and the California Consumer Power and Conservation Financing Authority (CPA), identifies reduction of energy use per capita as one of six sets of actions that are of critical importance.² By today's decision, we have translated this mandate into explicit, numerical goals for electricity and natural gas savings for the four largest investor-owned utilities (IOUs): Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E), Southern California Edison Company (SCE) and Southern California Gas Company (SoCalGas).

Our adopted annual and cumulative goals for energy savings through the year 2013 are presented in Tables 1a-1d, by IOU service territory.

These goals will be updated every three years, in concert with a three-year program planning and funding cycle for energy efficiency ("program cycle"). In preparation for the program year (PY) 2006-2008 program cycle, we are in the process of designing the future administrative structure for energy efficiency in a separate phase of this proceeding. The program administrators that we select under this structure will be required to submit energy efficiency program plans and funding levels for PY2006-PY2008 in the coming months to meet the electric

¹ Attachment 1 explains all acronyms and other abbreviations used in this decision.

² A copy of the complete Energy Action Plan is available for downloading on the Commission website at www.cpuc.ca.gov.

and natural gas savings goals we adopt today. Future updates to these goals will be considered for the PY2009-PY2011 program cycle, based on updated savings potential studies, accomplishment data and other evaluation studies, as appropriate.

As discussed in this decision, PG&E, SCE and SDG&E are required to revise their long-term electric procurement plan submittals in Rulemaking (R.) 04-04-003 to include a level of energy efficiency activity that reflects today's adopted energy savings goals. These supplemental filings are due within 20 days from the effective date of this decision. For each subsequent resource procurement cycle, the IOUs shall incorporate the most recently-adopted energy savings goals in their procurement plan filings.

More generally, in any application or other filing in which PG&E, SCE, SDG&E or SoCalGas present projections of supply-side resource needs, pipeline or transmission needs, propose new facilities or otherwise utilize projections of energy demand, they must demonstrate that such filings are fully consistent with and reflect today's adopted energy savings goals, or updates to these goals as adopted by the Commission.

2. Procedural Background

By ruling dated July 3, 2003, Assigned Commissioner Susan Kennedy established the scope and direction for this proceeding during the remainder of 2003, and beyond. Among other things, the ruling discusses the need to establish energy savings goals in this rulemaking based on the overall potential

for cost-effective energy efficiency.³ To this end, the Commission held a workshop in collaboration with the CEC and CPA on October 8, 2003 to explore the potential for energy efficiency in California. The most recent evaluations of the potential for increased savings from electric and natural gas efficiency investments in California were used as the starting point for the workshop discussion, including The Hewlett Foundation Energy Series report, “California’s Secret Energy Surplus” (Hewlett Foundation Report), which is based on studies funded through the public goods charge.⁴ The workshop was attended by over twenty-five individuals and organizations representing a wide range of interests, including program providers, equipment contractors, government agencies, consumers and consultants.

By ruling dated October 30, 2003, Commissioner Kennedy summarized her conclusions from the discussion and presentations at the workshop, and solicited written comments to follow-up questions related to the potential for energy efficiency and the ways the Commission could adjust policy and program rules to achieve that potential. Post-workshop comments were filed on January 7, 2004 by the City of Berkeley, California Consumer Empowerment

³ See also D.04-01-050 in R.01-10-024, *mimeo.* pp. 104-105, where the Commission reiterated the need to address issues related to energy efficiency goals in this proceeding.

⁴ Mike Rufo and Fred Coito, Xenergy Inc., 2002. *California’s Secret Energy Surplus: The Potential for Energy Efficiency*, prepared by Xenergy Inc. for the Energy Foundation and Hewlett Foundations, October, 2002. This study was also made possible by the efforts of PG&E, which sponsored the anchor study on the commercial sector in 2001, and support from the CEC in early 2002 for the initial residential work. This report and Xenergy’s natural gas savings potential reports can be downloaded off of the web at: www.cpuc.ca.gov/static/industry/electric/energy+efficiency/rulemaking.htm.

Alliance, Davis Energy Group, Intergy Corporation, Office of Ratepayer Advocates (ORA), San Diego Regional Energy Office, SCE, The Utility Reform Network (TURN), Natural Resources Defense Council (NRDC), PG&E, Robert Mowris Associates, and Women's Energy Matters (WEM).

Per Commissioner Kennedy's further direction, Energy Division and CEC staff jointly prepared a report on annual energy savings targets by IOU service territory, building upon the record in this rulemaking on energy savings potential and work underway for the CEC's 2003 Integrated Energy Policy Report proceeding. We collectively refer to Energy Division and CEC staff working on this effort as "Joint Staff" throughout this decision. The Assigned Commissioner also established a schedule for opening comments, a public workshop, and reply comments on the Joint Staff reports.⁵

Joint Staff distributed two separate reports for public review on March 26, 2004: (1) Natural Gas Savings Goals Report, and (2) California Electricity Energy Savings Goals Report. The latter reflected a Joint Staff addendum to an October 2003 report on statewide electricity savings goals prepared by CEC staff.⁶ Opening comments on the Joint Staff reports were filed on April 14, 2004 by NRDC, ORA, PG&E, SCE, jointly by SDG&E and SoCalGas, and WEM.⁷

⁵ See Assigned Commissioner's Ruling Establishing Schedule for Addressing High Priority Issues During 2004, and Notice of Workshop on Administrative Structure, dated February 6, 2004, pp. 5-6.

⁶ These documents can be viewed at:
<http://www.cpuc.ca.gov/static/industry/electric/energy+efficiency/rulemaking/index.htm>

⁷ We note that WEM's April 14, 2004 pre-workshop comments do not address the energy efficiency targets presented in the Joint Staff report. Rather, they reiterate WEM's position on energy efficiency administrative structure, arguing for the California Standard Offer Program that WEM has submitted for Commission

Footnote continued on next page

On April 20, 2004, Joint Staff facilitated a workshop on the energy efficiency savings goals outlined in the reports. Post-workshop reply comments were filed by PG&E, SCE, Intergy Corporation (Intergy), SESCO, Inc. (SESCO) and jointly by SDG&E/SoCalGas.

Since issuing its reports on March 26, 2004, Joint Staff has responded to comments by performing additional analysis and making certain modifications to its initial savings goal recommendations. In the following sections, we first summarize the Joint Staff's March 26, 2004 recommendations for energy savings goals, and summarize the issues raised by workshop participants and in post-workshop comments. Next, we describe Joint Staff's response to these issues. Finally, we address the remaining areas of contention and present our adopted energy savings goals.

3. Joint Staff's March 26 2004 Recommendations

Tables 2 and 3 present Joint Staff's March 26, 2004 recommendations for electricity and natural gas savings goals. We summarize below the methods used by Joint Staff to develop these goals.

3.1. Electricity Savings Goals

In developing its recommendations for electricity savings goals, Joint Staff started with the statewide goals developed by CEC staff for the 2003 Integrated

consideration in a different phase of this proceeding. WEM's filing is not relevant to the issues we address today, and is therefore not considered in the discussion that follows.

Energy Policy Report (referred to hereafter as the “statewide goals study”).⁸ Those statewide goals were, in turn, based on a review of the economic potential for energy efficiency programs, i.e., the magnitude of savings that could be achieved by programs at a cost equal to or less than the projected cost of supply alternatives.

The statewide goals study utilized the costs and benefits information provided in the Hewlett Foundation Report to develop an estimate of the potential to increase the number of energy efficiency investments made by customers and businesses in specific segments over the next decade. This report presents estimates of the remaining potential to reduce energy usage over the next 10 years by influencing customers to make energy efficiency investments. It does so by examining market saturation for a list of over 200 measures for the residential, commercial and industrial sectors, and deriving cost of conserved energy supply curves. Based in this information, the report shows that additional energy savings can be achieved equivalent to 10 percent of total electricity sales in 2011, and at a levelized cost of less than 5 cents per kilowatt hour (kWh). The cost of conserved energy includes administration costs, incremental measure costs, rebate costs and marketing costs.

The statewide goals study utilizes the supply curves and other information presented in the Hewlett Foundation Report to compare the cost of energy

⁸ *Proposed Energy Savings Goals for Energy Efficiency Programs in California*, prepared by Mike Messenger et al. in support of the 2003 Integrated Energy Policy Report Proceeding (o2-IEP-01), October 27, 2003. This paper can be downloaded at http://www.energy.ca.gov/reports/2003-11-05_100-03-021F.PDF, and is also appended to the Joint Staff’s March 26, 2004 California Electricity Energy Savings Goal Report, referenced above.

efficiency measures to the levelized costs of three separate supply cost benchmarks. The benchmarks are: (1) a peak load plant designed to run from 10 to 999 hours per year, (2) a plant designed to serve shoulder load for one to four thousand hours per year and (3) a baseload plant designed to run year round. Based on this comparison, the statewide goals study projects the remaining economic potential for energy efficiency measures. That potential is estimated to be 35,325 gigawatt hours (Gwh) per year, by the year 2013. This reflects the lower end of the range presented by the generalized cost of conservation curve analysis in the Hewlett Foundation Report. CEC staff proposes a lower goal based on its assessment of limiting factors, including funding constraints and the trend in market saturation for certain measures.

The statewide goals study also considers the impact of achieving these savings goals on future per capita energy usage levels as well as on the overall electricity forecast, and assesses the feasibility of using energy efficiency programs to reach different per capita reduction goals. Based on an evaluation of previous program experience and trends in cost-effectiveness, the study concludes that the achievable potential is on the order of 30,000 Gwh statewide over the next decade, and establishes this level as a long-term goal.

In the March 26, 2004 report, Joint Staff translates this statewide level of energy savings goals to the individual IOU service territory levels. This was accomplished by applying a baseline ratio of savings per dollar of expenditure to each IOU's relative share of program funding. Table 2 presents Joint Staff's recommendations for electricity savings goals on an annual and cumulative basis over 2004-2013 by IOU service territory. The annual numbers represent the annual Gwh and megawatt (MW) savings achieved by the set of programs and measures implemented in that specific program year. The cumulative numbers

represent the annual savings from energy efficiency program efforts up to and including that program year.

As indicated in Table 2, Joint Staff recommends a cumulative goal for electricity savings over the next decade of 26,508 Gwh (6,892 MW peak) per year for PG&E, SCE and SDG&E combined. This total is approximately 85% of the savings goals adopted in the statewide goals study, reflecting the exclusion of incremental savings estimates for energy efficiency programs in municipal utility areas.

Table 4 presents the share of incremental needs met by energy efficiency programs if these long-term goals are met. As indicated in that table, energy efficiency programs are projected to meet 59% to 74% of the IOU's incremental energy needs between 2004 and 2013, including those savings produced by programs funded through the \$232 million public goods charge (PGC) authorized by the Legislature. When electricity savings associated with this minimum program funding level are removed from the baseline forecast, achieving the recommended goals would enable the IOUs to meet 46%-59% of projected increases in electricity usage over the next decade with increased investment in energy efficiency.

As Joint Staff explains in the report, there are two ways to describe the impacts of electricity savings goals on trends in per capita usage or, alternatively, to estimate the level of savings necessary to meet a requirement to reduce per capita electricity energy use by a certain percentage. In this proceeding, Joint Staff looked at per capita reductions relative to an initial base year level of usage in 2003, as did PG&E. On the other hand, SCE and SDG&E chose to look at per

capita reductions relative to their own forecasts of per capita usage in future years, which can be rising, stable or declining.⁹ In other words, the Joint Staff method assumes that establishing a “per capita reduction goal” means to reduce per capita electricity use each year, starting now, and not from a forecasted value ten years from now.

Use of these different methods yields very different forecasts of savings achieved for the same per capita reduction percentage. For example, relative to the level of per capita usage in the 2003 base year, the savings goals recommended in both the statewide goals study and the Joint Staff report translate to a reduction in per capita electricity usage on the order of 0.3 to 0.4 percent over the next 10 years. Using the lower end of the range means that per capita usage in 2004 would be 0.3 percent lower (in absolute value) than the level of per capita usage in 2003, or 99.7 percent of that level. In 2005, the per capita usage would be 99.4 percent (99.7 x 99.7 percent) of the level in 2003, and so on compounded out to 2013, when per capita usage is approximately 3% lower than the 2003 base value.

Using the second method, where reductions to per capita usage occur relative to the forecast of future per capita usage, the Joint Staff recommendation for savings goals for each utility translates to a reduction in the annual forecasts

⁹ However, in their procurement filings in R.01-10-050, all three IOUs translated the 1% per capita energy reduction goal identified in the July 3, 2003 Assigned Commissioner’s Ruling in this proceeding into savings projections that reduced per capita usage by 1% each year relative to their own forecasts of future year usage. As discussed below, this approach results in much lower energy savings levels than interpreting per capita usage reduction goals as a requirement to reduce per capita usage relative to an initial base year usage level.

of per capita electricity usages of 0.6% per year for PG&E, 0.8% per year for SCE and 0.93% per year for SDG&E. This means that per capita usage in each of the years forecasted over the 2004-2013 period would need to be reduced by the per capita reductions calculated above for each IOU to achieve the equivalent energy savings goal contained in Joint Staff's recommendations. The percentage change in per capita usage derived using the second method is higher because the reductions are not compounded over time from a base per capita usage level. Rather, the reductions are simply used to scale down a forecast of per capita usage that is already trending upwards for all three utility forecasts.

Regardless of the interpretation of how to calculate per capita reductions achieved by energy efficiency program savings, Joint Staff recommends that the Commission "adopt our aggressive overall savings goals that were determined based on potential studies and cost-effectiveness and are not tied to any particular interpretation of trends in per capita usage."¹⁰

3.2. Natural Gas Savings Goals

The analysis in the March 26 2004 Joint Staff report on natural gas savings goals was based on Xenergy's recent evaluations of the technical and economic potential to reduce natural gas use.¹¹ First, staff calculated the "technical, economic and maximum achievable" potential estimates from the Xenergy studies, by combining the results for each market segment (residential, commercial and industrial). This potential reflects measures that can be substituted for, or applied to, already installed technologies on a retrofit basis. It

¹⁰ *California Electricity Energy Savings Goals Report*, March 26, 2004, Joint Staff memo, p. 3.

¹¹ See the website reference in a previous footnote.

does not reflect emerging technologies or natural gas savings that might be achieved through an integrated redesign of a building's existing energy-using systems.

To develop the “economic and maximum achievable potential,” Joint Staff utilized the energy cost scenario closest to current conditions and future natural gas price projections, and summed the results. Staff also compared the assumed avoided cost figures from the Xenergy reports with updated figures, and found that the differences were minimal and not expected to dramatically affect the results of Xenergy's potential analysis. Finally, Staff evaluated factors suggesting that Xenergy's natural gas savings estimates may be too high or too low, and identified several that could bias the results in both directions.

Figure 1 shows the natural gas savings potential derived by staff from these studies in three categories. *Technical potential* encompasses complete penetration of all measures that are technically feasible to install from an engineering standpoint. An estimated 4,559 million therms fall into this category for the residential, commercial and industrial markets. *Economic potential* typically refers to that portion of technical potential that is cost-effective for customers when compared to supply-side alternatives. At 1,592 million therms, the economic portion of the total potential is considerably smaller than what is technically possible. The third type of potential, *maximum achievable*, is the amount estimated to be achievable over a period of time with the most aggressive program scenario possible.

The maximum achievable scenario assumes that all customers are made fully aware and knowledgeable about cost-effective efficiency measures and that all incremental measure costs are paid by the program. It also assumes no funding constraints (e.g., IOUs could unilaterally increase program spending to

meet customer demand) and that program managers could significantly increase the fraction of customers reached by their programs from roughly 3 to 5% of the population to 15 to 20% of the population. Xenergy estimates 1,057 million therms per year to be the maximum achievable savings for SoCalGas, SDG&E and PG&E, combined.

Joint Staff also examined Xenergy's projections of natural gas savings achieved using different program funding trajectories: (1) Level 1--current spending of \$45 million per year, (2) Level 2--50% more than current spending, (3) Level 3--100% more or doubling the current spending trend, and (4) Level 4--spending for the maximum feasible potential. Table 5 presents the results of those projections. Based on an evaluation of historic natural gas efficiency program experience and trends in cost-effectiveness, Joint Staff develops natural gas savings goals that are slightly higher than the Level 3 trajectory, i.e., reflecting 100% increase in program funding levels. In presenting its recommendations, Joint Staff states the following:

"We conclude that it would be feasible to ramp up program funding to achieve the term savings reported by Xenergy for the Level 2 and Level 3 funding levels but not the Level 4 (Maximum Achievable). We find it very unlikely that the Commission would approve a five fold increase in funding in 2006 to begin to achieve the savings envisioned in the Maximum Achievable scenario. This level of funding increases and actual expenditures have never occurred over the last two decades. Our review of the funding levels over the last 5, 10 and 20 years and the trends in existing program effectiveness rules out Maximum Achievable as a feasible goal....[S]taff does not believe it wise to pursue goals much greater than the Level 3 Increase, or 100% increase in program funding levels until more experience is gained with respect to the IOUs ability to rapidly ramp up both funding and achieve incremental natural gas savings."

Joint Staff's March 26, 2004 recommendations are presented in Table 3. As reflected in that table, Joint Staff recommends three, five and ten year cumulative annual savings goals of 60, 111 and 290 million therms (Mth) respectively. By 2014, this is roughly a 115 Mth increase over the 174 Mth of expected savings that would be achieved if current funding levels and program effectiveness (therms saved per dollar) remain constant.

4. Positions of the Parties

In their comments on the Joint Staff report, the IOUs recommend that the following technical issues be resolved before finalizing energy efficiency savings goals: (1) reconciling various consumption and population data, (2) removing electricity and natural gas sales to "resale cities"¹² (3) removing usage by self-generators, (4) removing natural gas sales to private marketers, to cogenerators and to thermally enhanced oil recovery customers, and (5) removing usage by direct access customers.

PG&E also argues that the Commission needs to address how non-utility generation at customers' premises ("private supply") will be accurately measured on an ongoing basis for the purpose of defining usage within a utility service territory. SESCO concurs with the IOUs that municipal utility customers

¹² Resale cities are municipalities located within an IOU service territory that purchase energy "wholesale" from the IOUs for resale to their residents and businesses. In population, resale cities comprise approximately 5.5% of SCE's service territory and 15% of PG&E's service territory, based on 2002 data. The resale cities for SCE are: Azusa, Vernon, Anaheim, Banning, Anza, Riverside and Colton. For PG&E, they are: Alameda, Biggs, Gridley, Calaveras, Lassen, Ukia, Atwater, Livingston, Merced, Roseville, Plumas, San Francisco, Lodi, Lompoc, Palo Alto, Santa Clara, Redding, Shasta Lake, Sierra (unincorporated), Healdsburg, Modesto, Turlock and Tuolumne (unincorporated).

and other non-PGC paying customers should be excluded from the calculation of savings goals, as long as the savings achieved by those customers are also removed from the calculation of savings accomplishments.¹³

Based on their post-workshop comments, SDG&E/SoCalGas and PG&E appear to generally support the magnitude of the electricity goals presented in the Joint Staff. SCE, on the other hand, argues that the Joint Staff recommendations for electricity savings goals for its service territory are not reasonably attainable because they would exceed the “maximum achievable potential” by the year 2012. SCE contends that additional analysis is needed to determine that level of energy efficiency that would represent stretch goals, but could also be counted on for resource planning purposes.¹⁴

Some parties take issue with Joint Staff’s recommendations for natural gas savings goals, arguing that they are far too low relative to the achievable, cost-effective potential for savings. In particular, ORA points out that there is a large disparity in the aggressiveness of Joint Staff’s recommended goals for electricity and natural gas savings. Whereas the electricity report recommends a long-term goal on the order of 90% of the maximum achievable savings potential, the natural gas report recommends a long-term goal that represents only 27.5% of that potential.¹⁵

NRDC echoes these observations in its pre-workshop comments, and presents an alternative proposal for natural gas savings goals for consideration.

¹³ Reply Comments of SESCO, p. 7.

¹⁴ SCE Reply Comments, April 30, 2004, p. 8.

¹⁵ Comments of ORA, April 14, 2004, p. 2.

In NRDC's view, a more appropriate savings goal for all three IOUs combined would be a cumulative annual savings of 750 million therms by 2014, or three-quarters of the achievable, cost-effective savings potential presented in the Xnergy studies. Under NRDC's proposal, the savings target would increase by 10 million therms every year until 2010, and then 8 million therms thereafter. Table 6 presents NRDC's proposal for annual and cumulative annual savings over the 2005-2014 period.

SESCO supports the NRDC proposal for a more aggressive natural gas savings goal. SDG&E and SoCalGas recommend that the Commission adopt the Joint Staff recommendations, arguing that the underlying program ramp up rate would be achievable and would result in an acceptable impact on customers' rates.¹⁶ However, if the Commission should adopt NRDC's recommended natural gas savings goals, SDG&E and SoCalGas recommend a slower ramp-up in the first two years of the program, equal to the Joint Staff recommendations.

In addition, the IOUs argue that the specific metric used to determine the cost-effectiveness of energy efficiency measures and/or programs, and the avoided costs used for calculating these metrics require further consideration in the process of setting goals for energy efficiency. In its post-workshop comments, SESO takes issue with the levelized cost method used in the Joint Staff report, and argues that the total resource cost test continues to be the most important cost-effectiveness consideration.

¹⁶.PG&E's reply comments do not reveal what level (or levels) of natural gas savings goals PG&E considers to be achievable.

More generally, the IOUs contend that the Joint Staff report needs to also address how savings goals will be established in a forum in which the cost and rate impacts of the goals, as well as their relationship to other policy objectives, can be properly assessed. The IOUs, NRDC, SESCO and Intergy also request further clarification on how the energy savings goals will be used, the applicable timeframe for establishing them, and how they will be updated and coordinated with procurement funding cycles. NRDC also urges the Commission to reaffirm that the purpose of this goal-setting process is to translate into numerical targets the overriding policy goal of pursuing all cost-effective energy efficiency opportunities.

Whatever energy savings goals the Commission adopts in this decision, parties appear to be in agreement that they should be updated on a regular basis. Consensus among workshop participants was reached that updating should occur every three years, consistent with a three-year program cycle. In particular, the IOUs recommend that the Commission establish a process whereby adjustments can be made to account for changed circumstances, such as economic growth, community choice aggregation and other significant demand forecasting parameters, and to take into account the existing supply portfolio so that ratepayers do not procure redundant resources.¹⁷ NRDC suggests that the Commission update the studies of the full potential for cost-effective gas energy efficiency across all sectors every three years, and then update the natural gas savings targets accordingly. SESCO prefers that the Commission set a

¹⁷ Joint Reply Comments of SDG&E and SoCalGas, April 30, 2004, pp.3-4; Reply Comments of PG&E, April 30, 2004, p. 7.

cumulative ten-year savings goal along with annual values needed to achieve that goal, and undertake revisions of the goals as frequently as new data is available. Intergy recommends that energy savings targets be continuously adjusted and refined with accomplishment data, and the results of measurement and evaluation studies.

5. Joint Staff's Response to Comments and Final Recommendations

Subsequent to the filing of post-workshop comments, Joint Staff worked with the IOUs to remove electricity sales to resale cities, as well as resale cities' population, from the calculation of sales and per capita usage for each IOU service territory, and to reconcile other technical differences. In addition, Joint Staff removed the impacts of gas sales to thermally enhanced oil recovery customers and sales to the City of Long Beach for the SoCalGas service territory. These adjustments are documented in Attachments 2-4.

As described in these attachments, adjustments to sales, population and other technical differences noted in the comments are relevant when calculating the effect of increased program savings on the forecast of per capita electricity usage, but they have no impact on the Joint Staff recommendations of Gwh and MW savings goals for each IOU. This is because the recommended energy savings targets are based on cost effectiveness, funding increase constraints and the projected trend in the effectiveness (kWh saved per dollar spent) ratios for the programs. Raising or lowering the amount of electricity (or natural gas) sales to be considered in the calculation of per capita trends does not affect these factors unless it serves to limit the target population for programs. Instead, these technical adjustments affect what one might conclude about the impact of a

given level of program savings on forecasts of overall usage and per capita usage trends.

More specifically, Attachments 2 and 3 show that removing electricity sales to resale cities from the CEC demand forecast reduces the overall sales forecast by 20% for PG&E and 7% for SCE. Population forecasts are also reduced by 15% and 5.5%, respectively. The net effect of both of these changes is to reduce the cumulative savings required to meet a reduction goal of -0.3% in per capita electricity usage by approximately 2% for PG&E and 1.5% for SCE. This change has no impact on the estimates of technical potential because the Xenergy studies started with estimates on IOU customer-only sales, and by definition exclude self-generation, resale cities, and other non-PGC paying entities. Attachment 4 also illustrates that removing natural gas sales to resale cities, cogeneration customers and thermally enhanced oil recovery sales has no impact on the recommended trajectory of incremental natural gas savings from the program over the next ten years. Joint Staff agrees with SESCO that savings achieved by customers that are not included in the calculations of savings potential should also be removed from the calculation of savings accomplishments.

Joint Staff has also considered SCE's contention that the Joint Staff recommended electricity goals exceed the maximum achievable potential. Joint Staff points out that Xenergy's statewide analysis estimated the maximum achievable potential for 2012 at 40,186 Gwh, of which SCE's share is roughly 40% or 16,326 Gwh. Joint Staff's recommended goal for SCE in 2012 is 10,771 Gwh , roughly 60% of the maximum achievable value for SCE from the statewide study. Moreover, Joint Staff's projection of feasible program savings for SCE is

based on SCE's own reported program effectiveness ratio. Thus, Joint Staff concludes that SCE's contention is without merit.

Joint staff also notes that PG&E's concerns over how private supply will be measured is now moot, since Joint Staff has modified its forecasts from an earlier approach to exclude private supply numbers. Therefore, estimates of the quantity of private supply do not affect either the setting of goals or the determination of per capita reductions equivalents. With regard to the availability of reliable data on these quantities, Joint Staff points out that all private suppliers over 1 MW are required to report their energy production to the CEC on a monthly basis.

On the issue of how to consider direct access customers on the electric side, or non-core customers on the natural gas side, Joint Staff believes that some level of potential energy savings from these markets should be considered in establishing overall savings goals. Although IOUs no longer procure energy on their behalf, Joint Staff points out that direct access and non-core customers continue to pay the PGC and ratepayer-funded programs continue to be designed and implemented to capture savings in these markets. As described in Attachment 5, overall savings goals can be bound by performing sensitivity analysis on what percentage of the non-core (or direct access) market savings potential is achievable. Joint Staff believes that this is a more reasonable approach than eliminating direct access and non-core usage from savings goal calculations altogether, or assuming that all of the economic potential can be effectively captured via ratepayer-funded programs. In sum, Joint Staff concludes that the March 26, 2004 recommendations for electricity savings goals do not require adjustments in response to parties' comments.

However, Joint Staff did perform additional analysis in response to workshop discussion and comments that has resulted in modifications to the March 26 2004 recommendations on natural gas savings goals. That analysis is presented in Attachment 5. As a result of revisiting this issue, Joint Staff has increased its recommended savings goals from 290 Mth to 472 Mth in annual savings, by 2014. This represents approximately 40% of the maximum achievable savings levels estimated from the Xenergy potential studies.

Finally, some parties at the workshop and in comments requested that Joint Staff perform a rate impact analysis to reflect increases in program funding consistent with the recommended savings goals. Attachment 6 presents Joint Staff's analysis of the rate increase required to fund the programs associated with its recommended natural gas savings goals and the net rate impact taking into account the resulting natural gas savings. The results indicate that the rate increase to fund the program of 0.6 cents/therm is counteracted by accumulated commodity savings. The net rate impact is calculated to be a negative 2.6 cents/therm, on average. In other words, Joint Staff projects that the extra savings valued at the commodity price of gas will be higher than the accumulated program costs.

Joint Staff was unable to prepare a comparable analysis of net rate impacts on the electric side because of the difficulty and uncertainty in forecasting the difference between avoided costs and retail rates over the next 10 years, which is needed for such a calculation. Instead, Joint Staff prepared a preliminary analysis of the revenue requirements and the program levelized costs associated with recommended savings goals for PY2006. The results and assumptions used in the calculations are displayed in Table 7. Joint Staff estimates that the programs implemented to meet the 2006 savings goals will cost 3.5 cents/kWh

on a levelized cost basis. In Joint Staff's view, this cost is less than any new baseload, combined cycle or peaking plant that can be brought on line over the next 10 years. Therefore, Joint Staff concludes that the rate impacts associated with its recommendations for electric savings goals are also likely to be negative when the value of electric energy savings is taken into account.

Joint Staff recommends that the IOUs be required to provide their best estimate of the net rate impacts of their programs when they file their program applications in mid-2005 for the next funding cycle.

6. Discussion

As NRDC points out, California's "one high-level, overriding goal guiding its energy efficiency efforts: to pursue all cost-effective energy efficiency opportunities."¹⁸ This overriding goal has been clearly articulated in the Public Utilities Code, in rulings and decisions by this Commission, and in the joint agencies' Energy Action Plan, which calls for conservation and energy efficiency to be first in the "loading order" of resources pursued in procurement.¹⁹ Pub. Util. Code § 701.1(b) provides that utilities should seek to exploit all cost-effective energy efficiency. Commission policies on energy efficiency articulated in D.02-10-062 and D.04-01-050, as well as the Assigned Commissioner's ruling dated July 3, 2003 in this proceeding, echo the Energy Action Plan requirement that energy efficiency be first in the loading of resources in the IOUs' procurement plans.

¹⁸ NRDC Comments, p. 3.

¹⁹ A copy of the Energy Action Plan can be viewed on the Commission's website at www.cpuc.ca.gov.

It is within the context of our objective to capture all cost-effective energy efficiency that we establish numerical targets for electricity and natural gas savings today, and create a process for updating them on a regular basis in the future. In order to meet our objective, the annual and cumulative numerical goals for energy savings *must* be aggressive, that is, they must “stretch” the capabilities and efforts of all those involved in program planning and implementation. At the same time, these stretch goals need to reflect a pace for increasing program efforts that is achievable, so that the savings goals can also be relied upon for resource planning and procurement purposes.

In our judgment, the Joint Staff final recommendations for electricity and natural gas goals achieve this balance. They reflect the need to substantially increase efforts to procure energy efficiency over both the short- and long term, based on recent assessments of its economic potential. At the same time, they reflect the practical limits to effectively increasing program funding and ramping up programs to capture the full economic potential of energy efficiency at this time. We believe that Joint Staff has developed a reasonable set of numerical goals based on careful consideration of the issues, and has been responsive to the technical issues raised by the parties.

We also agree with Joint Staff that establishing per capita usage reduction goals using future forecasts of per capita usage is problematic, since the calculation of energy savings based on such goals is particularly vulnerable to forecasting errors. We prefer to express savings goals in terms of annual and cumulative GWh, peak MW, and Mth savings levels for each of the IOUs. To the extent that such goals need to be expressed in terms of per capita usage reductions, they should be described relative to a single base year of usage, as

the Joint Staff proposes. Accordingly, we adopt the final Joint Staff recommendations, as presented in Tables 1a-1d.

We will use our adopted savings goals primarily on a prospective basis for resource procurement and program planning. More specifically, during each program cycle for energy efficiency, we expect the program administrators (which may or may not be the IOUs²⁰) to demonstrate that their proposed level of program activities and funding is consistent with these goals. In doing so, they should exclude projected savings associated with customers not included in the calculation of savings potential (e.g., resale cities and self-generation). Similarly, when documenting program accomplishments, savings by customers not included in the calculation of savings potential should be removed from the calculation of savings, in order to ensure consistency between the basis for establishing the goals and the assessment of whether those goals have been met.

We recognize that there may need to be some differences between the near-term numerical goals and the savings levels associated with the program portfolios developed during the next funding cycle, which starts with program plan filings in just a few months. Nonetheless, we expect the program administrators to clearly describe in their filings how both electric and natural gas energy efficiency programs and associated savings will be ramped up over time, how program performance ratios will be improved, or other actions will be taken to meet the longer-term numerical goals presented in Tables 1a-1d.

²⁰ The Commission is currently considering the issue of the future administrative structure for energy efficiency. We therefore do not presume in today's decision that the IOUs will continue the role of program administrator in preparing the program portfolio for Commission consideration, since other approaches have been recommended by parties, and are currently under consideration.

For this purpose, we encourage the program administrators to aggressively develop program design options during the next funding cycle that will address major barriers to energy efficiency deployment, chief among them being on-bill financing of energy efficiency measures. As Joint Staff points out in its March 26, 2004 report, concerted efforts by program administrators and the CEC to develop and support new building and appliance standards beginning in 2008 can also contribute significantly to meeting our savings goals.

PG&E, SDG&E and SoCalGas recommend that the goals we establish today be recalibrated during each energy efficiency funding cycle to take into account the existing supply portfolio “so that ratepayers do not procure redundant resources.”²¹ We disagree with the underlying premise reflected in this statement; namely, that the reasonableness of energy efficiency savings goals must be considered in the context of the IOUs’ plans to dispatch existing or procure additional supply-side resources. Rather, the converse is the case, based on the policies clearly articulated in the Energy Action Plan and by this Commission. Those policies dictate that cost-effective conservation and energy efficiency are *first* in the IOUs resource loading order—that is, energy efficiency is evaluated for cost-effectiveness and procured *before* supply-side resources are to be factored into the procurement plan.

We therefore need to ensure that the energy efficiency savings goals adopted in this proceeding are fully reflected in the IOUs procurement plans so that ratepayers do not procure redundant supply-side resources over the short- or long-term. To this end, PG&E, SCE and SDG&E will need to revise their long-

²¹ PG&E Reply Comments, p. 7.

term electric procurement plan submittals in R.04-04-003 to include a level of energy efficiency activity that reflects today's adopted energy savings goals. These supplemental filings are due within 20 days from the effective date of this decision. For each subsequent resource procurement cycle, the IOUs shall incorporate the most recently-adopted energy savings goals in their procurement plan filings.

More generally, in any application or other filing in which PG&E, SCE, SDG&E or SoCalGas present projections of supply-side resource needs, pipeline or transmission needs, propose new facilities or otherwise utilize projections of energy demand, they must demonstrate that such filings are fully consistent with and reflect today's adopted energy savings goals, or updates to these goals as adopted by the Commission. We note that in our current natural gas rulemaking, R.04-01-025, the IOUs have submitted natural gas demand forecasts over the 2006 and 2016 period, along with information on their infrastructure requirements for meeting those forecasts. Since the gas demand forecasts for PG&E, SDG&E and SoCalGas will be reviewed in their respective Biennial Cost Allocation Proceedings (BCAPs), they also need to reflect the natural gas energy savings goals adopted in today's decision in their BCAP filings.

In addition, proposals for a risk/reward mechanism for energy efficiency should consider using the cumulative savings goal in a particular year as a threshold for performance, subject to a reasonable uncertainty band around the numerical levels. For example, if the uncertainty band is 15%, for SDG&E to qualify for earnings on its 2006 programs, it would need to show that its programs saved at least 296 Gwh in 2006 plus or minus 15 %, or between 251.6

and 340.4 Gwh per year.²² We will consider how best to link today's adopted savings goals with the performance basis of a risk/reward mechanism when we address proposals for such mechanisms in a later phase of this proceeding, and in the context of the portfolio of programs being implemented at that time.

With respect to updating our savings goals, we agree with Joint Staff and the workshop participants that energy savings forecasts should be updated every three years, in concert with a three-year program planning and funding cycle.²³ However, since the filings and review for the PY 2006 to PY2008 funding cycle will begin in just a few months, today's adopted energy savings goals will apply to the next cycle without further updates. In preparation for the subsequent funding cycle (for PY2009-PY2011), which begins during the summer of 2008, Energy Division and CEC staff should jointly prepare recommendations for adjustments to our adopted savings goals, as appropriate, based on updated savings potential studies, accomplishment data and other evaluation studies they deem appropriate. These studies will continue to be funded out of PGC collections. The administration of savings potential and other evaluation studies, i.e., who contracts for and manages them, will be addressed in a separate decision on energy efficiency administrative structure in this proceeding.

²² From Table 1C, Row 1, annual goal for 2006.

²³ We note that a wide range of participants in the Consumer Needs Workshop have also urged us to move from a two- to a three-year planning horizon for energy efficiency. See Assigned Commissioner's Ruling Soliciting Post-Workshop Comments on Energy Efficiency Needs Workshop and Scheduling and Soliciting Pre-Workshop Comments for the Workshop on Partnerships, February 9, 2004, pp. 2-3 and p. 4.

We agree with the IOUs and others that the calculation of avoided costs and the specific metrics to be used in evaluating cost-effectiveness require further consideration for resource planning purposes. We are currently addressing avoided cost issues in R.04-04-025, and the outcome of that proceeding will clearly feed into future cost-effectiveness evaluations of energy efficiency. We are also addressing the issue of what metric to adopt as the “performance basis” for energy efficiency resource programs in a separate phase of this proceeding, and will also be developing updated policy rules on cost-effectiveness and other issues in the coming months.

Nonetheless, the adoption of energy savings goals does not need to await the outcome of these efforts. As described in its reports, Joint Staff has taken reasonable steps to account for uncertainties in avoided cost and energy price forecasts, and to evaluate factors that could bias the analysis in either direction. We believe that Joint Staff has also taken a reasonable approach to combining cost-effectiveness metrics for this particular application. Joint Staff’s screening process first eliminated all measures that did not pass the total resource cost (TRC) test. Next, Joint Staff compared those measures that did pass the TRC screening against the levelized cost of specific supply projects that can meet the same need. Finally, Joint Staff calculated the economic potential of energy efficiency based on the energy efficiency measures that passed both screenings.

Hence, SESCO’s concerns that Joint Staff used levelized costs in place of the TRC and other tests of cost-effectiveness we have used for program evaluation in the past are unfounded. Moreover, our adoption of the Joint Staff recommendations on savings goals does not adopt Joint Staff’s screening methodology for the purpose of evaluating the cost-effectiveness of individual

measures or programs, or prejudge our consideration of what policy rules to adopt with respect to cost-effectiveness testing for future funding cycles.

Finally, with respect to rate impacts, we will adopt Joint Staff's recommendation that the program administrators submit their estimates of the rate impacts of their proposed program portfolio in each program cycle. This showing should include a calculation of the net rate impacts, that is, taking into account the savings of the programs over the measure lives. The program administrators should work with Joint Staff to develop a consistent format and input assumptions for presenting this information in their program plan applications.

7. Comments on Draft Decision

The draft decision of ALJ Gottstein in this matter was mailed to the parties in accordance with Pub. Util. Code § 311(g)(1) and Rule 77.7 of the Commission's Rules of Practice and Procedure. Comments were filed on _____ and replies were filed on _____.

8. Assignment of Proceeding

Susan P. Kennedy is the Assigned Commissioner and Meg Gottstein is the assigned ALJ in this phase of the proceeding.

Findings of Fact

1. Numerical targets for electricity and natural gas savings should be established in the context of California's overriding goal to pursue all cost-effective energy efficiency opportunities.

2. The annual and cumulative numerical goals for energy savings must be aggressive and stretch the capabilities and efforts of all those involved in program planning and implementation. At the same time, these stretch goals need to reflect a pace for increasing program efforts that is achievable.

3. The final recommendations presented by Joint Staff for electricity and natural gas goals reflect the need to substantially increase efforts to procure energy efficiency over both the short- and long-term, based on recent assessments of its economic potential.

4. Joint Staff's final recommendations take into consideration the practical limits to effectively increasing program funding and ramping up programs to capture the full economic potential of energy efficiency in the near-term.

5. Removing electricity sales to resale cities from the CEC demand and population forecasts does not affect the estimates of technical potential presented in the Xenergy study or Joint Staff's recommendations for numerical savings goals. For the same reason, removing natural gas sales to resale cities, cogeneration customers and thermally enhanced oil recovery sales has no impact on the recommended trajectory of incremental natural gas savings from the program.

6. Savings achieved by customers not included in the calculation of savings potential should be removed from the calculation of savings accomplishments, in order to ensure consistency when evaluating whether the goals are met.

7. SCE's contention that the Joint Staff recommendations for electricity goals exceed the maximum achievable potential is contradicted by the numerical values of economic potential presented in the Xenergy study and SCE's own reported data on program effectiveness ratios.

8. As discussed in this decision, PG&E's concerns over how private supply will be measured is moot, since Joint Staff has modified its forecasts from an earlier approach to exclude private supply numbers.

9. Although the IOUs no longer procure energy on their behalf, direct access and non-core customers continue to pay the PGC and ratepayer-funded

programs continue to be designed and implemented to capture savings in these markets.

10. Joint Staff's approach to bounding natural gas savings goals by performing sensitivity analysis on what percentage of the non-core market potential is achievable is more reasonable than either (1) eliminating non-core usage from savings goal calculations altogether, or (2) assuming that all of the economic potential can be effectively captured via ratepayer-funded programs.

11. Joint Staff's preliminary analysis clearly indicates that the energy savings realized over the life of the energy efficiency measures will exceed the accumulated program costs associated with the energy savings goals, thereby resulting in "negative" net rate impacts to IOU customers.

12. Establishing per capita usage reduction goals using future forecasts of per capita usage is problematic, since the calculation of energy savings based on such goals is particularly vulnerable to forecasting errors. To the extent that Gwh, MW or Mth savings goals need to be expressed in terms of per capita usage reductions, they should be described relative to a single base year of usage, as Joint Staff proposes.

13. As discussed in this decision, the program administrators' estimates of the net rate impacts associated with the proposed portfolio of programs designed to meet the Commission-adopted goals should be filed with their program plan applications during each program cycle.

14. Recalibrating our adopted energy savings goals in order to address potential procurement redundancies, as PG&E and other IOUs propose, implies that the reasonableness of those goals must be considered in the context of the IOUs' plans to dispatch existing or procure additional supply-side resources. As discussed in this decision, the policies articulated in the Energy Action Plan and

by this Commission dictate just the opposite; namely, that energy efficiency is evaluated for cost-effectiveness and procured before supply-side resources are to be factored into the procurement plan.

15. Some differences between the near-term numerical goals and the savings levels associated with the program portfolios developed for the PY2006-2008 program may be appropriate. Nonetheless, the program administrators should be able to demonstrate how the longer-term numerical goals will be achieved as program efforts ramp and as they offer innovative program designs to address major barriers to energy efficiency deployment.

16. In order to meet today's adopted goals, program administrators should aggressively pursue programs that support new building and appliance standards and develop "on the bill" financing options, as discussed in the decision.

17. A three-year period provides a reasonable timeframe for updating energy savings potential studies and goals, and for preparing and planning for each subsequent energy efficiency funding cycle.

18. Joint Staff has taken reasonable steps to account for uncertainties in avoided cost and energy price forecasts, and to evaluate factors that could bias the analysis of savings potential in either direction.

19. Joint Staff utilizes a reasonable combination of cost-effectiveness metrics in screening energy efficiency measures to include in its calculations of economic potential.

Conclusions of Law

1. Joint Staff has developed a reasonable set of numerical savings goals based on careful consideration of the issues, and has been responsive to the technical issues raised by the parties.

2. Joint Staff's recommendations for savings goals should be adopted, subject to the updating process described in this decision.

3. The adopted savings goals will be used primarily on a prospective basis for resource procurement and program planning purposes, as described in this decision. In addition, Joint Staff and the parties should explore using the adopted goals as a threshold for performance, subject to a reasonable uncertainty band, as we consider risk/reward mechanisms in a later phase of this proceeding.

4. The energy efficiency savings goals adopted in this proceeding should be incorporated into the IOUs electric resource plans and BCAPs to ensure that ratepayers do not procure redundant supply-side resources over the short- or long-term.

5. Today's decision does not adopt Joint Staff's screening methodology for the purpose of evaluating the cost-effectiveness of individual programs or measures, or prejudice our consideration of cost-effectiveness policy rules for future funding cycles.

6. In order to proceed expeditiously with energy efficiency program planning and supply-side procurement in the context of our adopted savings goals, this decision should be effective today.

INTERIM ORDER

IT IS ORDERED that:

1. The next program planning and funding cycle for electric and natural gas energy efficiency ("program cycle") shall cover program year (PY) 2006 through PY 2008. Each subsequent program cycle shall cover a three-year period until further order of the Commission.

2. The energy efficiency savings goals presented in Tables 1a through 1d for the service territories of Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E), Southern California Edison Company (SCE) and Southern California Gas Company (SoCalGas) are adopted for the PY2006-PY2008 program cycle.

3. Today's adopted savings goals shall be updated every three years for use in subsequent program cycles. In preparation for the PY2009-PY2011 program cycle, Energy Division and California Energy Commission staff ("Joint Staff") shall jointly prepare recommendations for adjustments to today's adopted savings goals, as appropriate, based on updated savings potential studies, accomplishment data and other evaluation studies that staff deems appropriate. These studies shall continue to be funded out of PGC collections. The administration of savings potential and other evaluation studies, i.e., who contracts for and manages them, shall be addressed in a separate decision on energy efficiency administrative structure in this proceeding.

4. In submitting proposed energy efficiency program plans and funding levels to meet the savings goals adopted by the Commission, the program administrators shall:

- a. Demonstrate that their proposed level of electric and natural gas energy efficiency program activities and funding is consistent with today's adopted savings goals.
- b. If there are differences between the near-term numerical goals and the savings levels associated with the proposed program portfolios, specifically describe how the numerical goals in later years will still be met by ramping up program efforts over time, by initiating innovative programs to improve program-effectiveness ratios, or by other means.

- c. Present specific proposals for on-bill financing of energy efficiency and for programs that support new building and appliance standards.
- d. Present estimates of the net rate impacts associated with the proposed portfolio of programs designed to meet the Commission-adopted energy savings goals. The program administrators shall work with Joint Staff to develop a consistent format for presenting these estimates in their filings.

5. Within 20 days from the effective date of this decision, PG&E, SCE and SDG&E shall revise their long-term electric procurement plans submitted in Rulemaking (R.) 04-04-003 to fully reflect the energy efficiency savings goals adopted in today's decision, by filing modified substitute sheets. These supplemental filings shall be served on the service list in this proceeding and in R.04-04-003 according to the electronic service protocols applicable to each proceeding. As discussed in this decision, PG&E, SCE and SDG&E shall incorporate the most recent Commission-adopted energy savings goals in their proposed electric procurement plans during each subsequent resource procurement cycle.

6. In any application or other filing in which PG&E, SCE, SDG&E or SoCalGas present projections of supply-side resource needs, pipeline or transmission needs, propose new facilities or otherwise utilize projections of energy demand, they shall demonstrate that such filings are fully consistent with and reflect today's adopted energy savings goals, or updates to these goals as adopted by the Commission.

7. PG&E, SDG&E and SoCalGas shall reflect the natural gas energy savings goals adopted in today's decision, or as updated from time to time by the Commission, in their BCAP filings and other proceedings where natural gas demand projections are submitted for Commission consideration.

8. Further direction on the scope, scheduling and other procedural issues related to the PY2006-PY2008 program cycle shall be provided by the Assigned Commissioner or Administrative Law Judge in this proceeding.

9. As discussed in this decision, the linkage between today's adopted savings goals with the performance of a risk/reward mechanism shall be addressed in a subsequent phase of this proceeding.

10. The Assigned Commissioner or Administrative Law Judge may, for good cause, modify the due dates established by this decision.

11. Today's decision shall be served by electronic and US mail on all appearances and the state service list in this proceeding, in Rulemaking (R.) 04-04-003, and in R. 04-01-025.

This order is effective today.

Dated _____, at San Francisco, California.

TABLE 1A**PG&E Total Electricity and Natural Gas Program Savings**

	2004	2005	2006	2007	2008	2009	2010
Total Annual Electricity Savings GWH/Yr	572	639	735	862	1,016	1,062	1,070
Total Cumulative Savings GWH/yr	572	1,211	1,946	2,808	3,824	4,886	5,955
Total Peak Savings (MW)	149	315	506	730	994	1270	1548
Total Annual Natural Gas Savings (MMTh/yr	(a)	11.3	12.5	14.3	15.6	19.3	20
Total Cumulative Natural Gas Savings (MMTh/yr)	(a)	11.3	23.8	38.1	53.7	73	93

Note Total savings = all savings from energy efficiency programs funded by public goods charge and Procurement funding.

This total includes savings from Energy efficiency programs already in the CEC forecast. For incremental savings above the levels included in the CEC forecast see gwhmwhbyutility.xls table 1.

GWh Savings converted to MW by multiplying by .26, see Proposed Energy Savings Goals Paper, October 27, 2003

Appendix A for a discussion of how this factor was derived and a comparison to current program experience.

(a)- No goals are proposed for 2004 since the initial staff natural gas goals were not proposed until March of 2004.

Electricity goals were proposed and adopted by the CEC in October of 2003.

TABLE 1B

SCE Total Electricity and Natural Gas Program Savings
from Energy Efficiency Programs

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Annual Electricity Savings GWH/Yr	726	811	933	1,094	1,290	1,348	1,358	1,541	1,672	1,820
Total Cumulative Savings GWH/yr	726	1,537	2,470	3,564	4,853	6,201	7,559	9,099	10,771	12,591
Total Peak Savings (MW)	189	400	642	927	1,262	1,612	1,965	2,366	2,801	3,274

Note Total savings = all savings from energy efficiency programs funded by public goods charge and Procurement funding.

This total includes savings from Energy efficiency programs already in the CEC forecast. For incremental savings above the levels included in the CEC forecast see gwhmwhbyutility.xls table 1.

GWh Savings converted to MW by multiplying by .26, see Proposed Energy Savings Goals Paper, October 27, 2003

Appendix A for a discussion of how this factor was derived and comparison to current program experience.

Table 1C

SDG&E Total Electricity and Natural Gas Program Savings Goals
from Energy Efficiency Programs

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Annual Electricity Savings GWH/Yr	230.6	257.5	296.1	347.5	409.5	428.0	431.1	489.2	531.1	577.9
Total Cumulative Savings GWH/yr	230.6	488.1	784.2	1,131.7	1,541.2	1,969.2	2,400.3	2,889.6	3,420.6	3,998.5
Total Peak Savings (MW)	59.9	126.9	203.9	294.2	400.7	512.0	624.1	751.3	889.4	1,039.6
Total Annual Natural Gas Savings (MMTh/yr)	(a)	2.5	2.7	3.1	3.6	4.2	4.4	4.4	4.9	5.3
Total Cumulative Natural Gas Savings (MMTh/yr)	(a)	2.5	5.2	8.4	12.0	16.2	20.6	25.0	29.9	35.2

Note Total savings = all savings from energy efficiency programs funded by public goods charge and Procurement funding.

This total includes savings from Energy efficiency programs already in the CEC forecast. For incremental savings above the levels included in the CEC forecast see gwhmwthbyutility.xls table 1.

GWh Savings converted to MW by multiplying by .26, see Proposed Energy Savings Goals Paper, October 27, 2003

Appendix A for a discussion of how this factor was derived and comparison to current program experience.

(a)- No goals are proposed for 2004 since the initial staff natural gas goals were not proposed until March of 2004.

Electricity goals were proposed and adopted by the CEC in October of 2003.

TABLE 1D

Socal Gas Natural Gas Program Savings Goals
MM Therms/Year

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Annual Natural Gas Savings (MMTh/yr)	(a)	11.3	12.5	14.3	15.6	19.3	20	19.9	22.4	24.1
Total Cumulative Natural Gas Savings (MMTh/yr)	(a)	11.3	23.8	38.1	53.7	73	93	112.9	135.3	159.4

Notes

Total savings= all savings from energy efficiency programs funded by public goods charge and Procurement funding.

This total includes savings from Energy efficiency programs already in the CEC forecast.

(a)- No natural gas savings goals are proposed for 2004 since the initial staff natural gas goals were not proposed until March of 2004.

Electricity savings goals analysis was performed in summer of 2003 and adopted by the CEC in October of 2003.

**Table 2: Joint Staff Electricity Savings Goals Recommendations
(March 26 2004 Report)¹**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Annual Savings (GWH/ year)										
PG&E	572	639	735	862	1,016	1,062	1,070	1,214	1,318	1,434
SCE	726	811	933	1,094	1,290	1,348	1,358	1,541	1,672	1,820
SDG&E	230	257	296	347	409	428	431	489	531	578
Total	1,528	1,707	1,963	2,304	2,715	2,837	2,858	3,243	3,521	3,831
Cumulative Savings over the Decade (GWH)										
PG&E	572	1,211	1,946	2,808	3,824	4,886	5,956	7,170	8,488	9,922
SCE	726	1,537	2,470	3,564	4,854	6,202	7,560	9,101	10,773	12,593
SDG&E	230	487	783	1,130	1,539	1,967	2,398	2,887	3,418	3,996
Total	1,528	3,236	5,199	7,503	10,218	13,055	15,913	19,156	22,677	26,508
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Cumulative Peak Savings (MW/ year)										
PG&E	149	335	506	730	994	1270	1548	1864	2207	2579
SCE	189	400	642	927	1262	1612	1965	2366	2801	3274
SDG&E	60	127	204	294	401	512	624	751	889	10393
Total	397	862	1352	1950	2657	3394	4137	4981	5896	6892

¹See "California Electricity Energy Savings Goals Report," submitted March 26, 2004 in this proceeding by Joint Staff. The method for converting Gwh to peak savings (using a conversion factor of .259) is discussed in Appendix A of that report.

**Table 3: Joint Staff Initial Recommendations
For Natural Gas Savings Goals (March 26, 2004)¹**

Time Period	PG&E	SCG	SDG&E	Total
3 Years (2005 - 2007)	23.5 Mth	33.2 Mth	2.9 Mth	59.7 Mth
5 Year (2005 - 2009)	43.7 Mth	61.6 Mth	5.5 Mth	110.7 Mth
10 Years (2005 - 2014)	114.5 Mth	161.6 Mth	14.3 Mth	290.4 Mth

Note: These figures are a combination of natural gas savings projected from current funding levels plus the expected savings from an increase in program funding. The cumulative annual savings estimates in the last column are the result average funding increases of 15% in 2006 and then 10% per year from 2007 – 2014. These results in an annual funding level in 2014 that is roughly 3 times or 147% increase relative to 2002 expenditures.

¹See “California Natural Gas Energy Savings Goals Report,” March 26, 2004 submitted by Joint Staff in this proceeding.

Table 4: Share of Incremental Needs met by Energy Efficiency Programs

Comparison of two different ways of expressing the share of incremental electricity
Needs met by Programs- Total Program savings vs Incremental savings above CEC forecast
2004 to 2013

Utility Programs	Total program savings share of incremental electricity needs-2013-2003	Incremental program savings share of electricity needs-2013-2004
PGE	59.3%	46.1%
SCE	68.3%	56.2%
SDG&E	74.0%	59.0%

Notes'

Incremental program savings include those savings not already contained in the CEC baseline forecast
CEC baseline forecast includes the savings impacts from ten years of constant funding
at the minimum level required by statute of \$233 million per year state wide

Fraction/Share of need met by incremental programs = incremental savings in 2013/ increase in electricity sales from 2004-2013)

Fraction of Need met by Total program saving estimate is derived by deviding total program savings
in year 2013 by the adjusted increment of need. Adjusted need increment = forecast 2013-2004 +
the expected savings from a decade of programs

This calculation increases the overall increment of electricity needs to fill demand because the adjusted forecast is
higher because it adds the baseline savings from the EE programs on top of the incremental need from
above to show what the need in 2013 would have been absent ten years of efficiency programs.

**Table 5: Joint Staff Evaluation of Natural Gas Therm Savings Potential
(by 2014) Under Various Program Funding Levels¹**

Utility	Level 4	Level 3	Level 2	Level 1	Naturally Occurring
PG&E	378 Mth	99 Mth	68 Mth	41 Mth	57Mth
SCG	635 Mth	143 Mth	97 Mth	57 Mth	63 Mth
SDG&E	44 Mth	13 Mth	8 Mth	5 Mth	13 Mth
Totals	1,057 Mth	255 Mth	174 Mth	104 Mth	133 Mth

Where:

Level 1= Current spending of \$45 million per year

Level 2= 50% more than current spending

Level 3=100% more or doubling the current spending trend, and

Level 4= spending for the maximum feasible potential

¹“California Natural Gas Energy Savings Goals Report,” March 26, 2004, submitted in this proceeding by Joint Staff. See pp. 18-21.

Table 6: NRDC Recommended Natural Gas Savings Targets

	Annual Savings (million therms)	Cumulative Annual Savings (million therms)
2005	32	32
2006	42	74
2007	52	126
2008	62	188
2009	72	260
2010	82	342
2011	90	432
2012	98	530
2013	106	636
2014	114	750

Table 7: Joint Staff Projection of Gross Revenue Requirement and Levelized Cost of Recommended Program Goals for 2006

Program Funding (\$ millions)	Total Savings (Gwh)	Revenue Requirement (cents/kwh)	Program Levelized Cost (cents/kwh)	First Year Savings Value (\$millions)
421.2	1963	0.00172	3.51	110

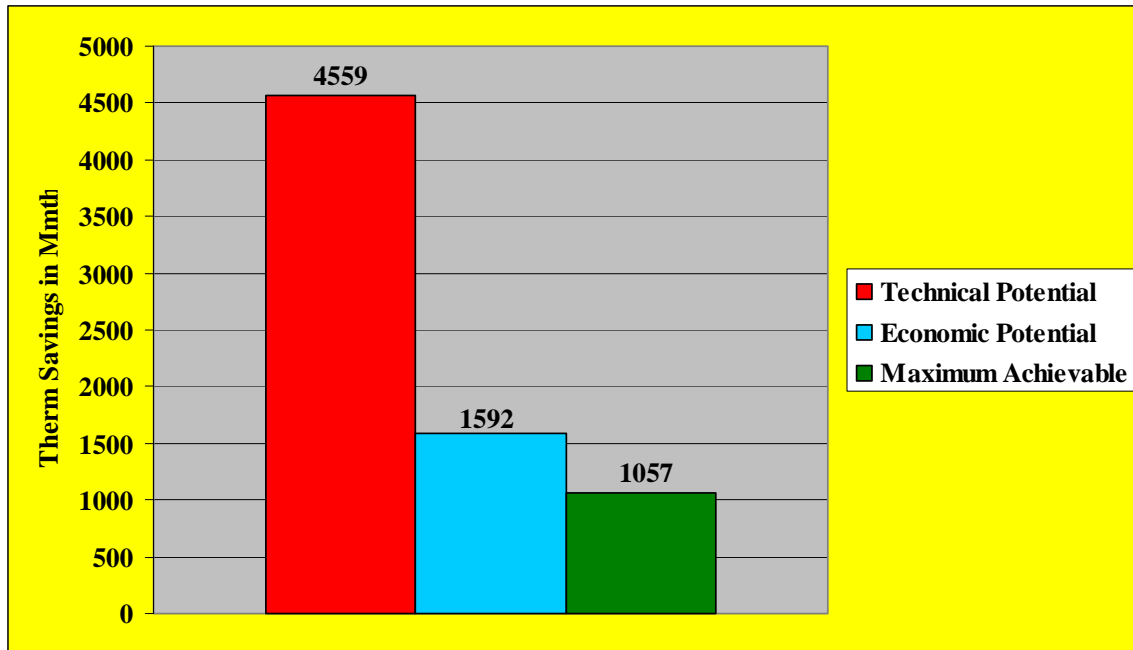
Notes: Revenue requirement=total program costs/total Gwh sales in 2006

Levelized cost=program cost*1.5*cap.recovery factor/kwh saved

Cap recovery factor=.109 assumes 12 year measure life and 4% real discount rate.

1.5 multiplier adds in estimate of incremental costs paid by customers

Simple payback = 4 years if elect. savings are valued at 5.6 cents/kwh

Figure 1: Natural Gas Savings Potential¹

¹From: "California Natural Gas Energy Savings Goals Report," March 26, 2004 submitted in this proceeding by Joint Staff, p. 9.

ATTACHMENT 1
LIST OF ACRONYMS AND ABBREVIATIONS

CEC	California Energy Commission
CPA	California Consumer Power and Conservation Financing Authority
Gwh	gigawatt hour
Intergy	Intergy Corporation
IOUs	investor-owned utilities
“Joint Staff”	Energy Division and CEC staff
kWh	kilowatt hour
Mth	million therms
MW	megawatt
NRDC	Natural Resources Defense Council
ORA	Office of Ratepayer Advocates
PGC	public goods charge
PG&E	Pacific Gas and Electric Company
“program cycle”	program planning and funding cycle for energy efficiency
PY	program year
R.	Rulemaking
SCE	Southern California Edison Company
SDG&E	San Diego Gas & Electric Company
SESCO	SESCO, Inc.
SoCalGas	Southern California Gas Company
“statewide goals study”	statewide goals developed by CEC staff for the 2003 Integrated Energy Policy Report
TRC	total resource cost
TURN	The Utility Reform Network
WEM	Women’s Energy Matters

(END OF ATTACHMENT 1)

ATTACHMENT 2**Impact of Removing Self Generation Production (kWh) and Sales to Resale Cities from the CEC Consumption Forecast for PG&E**

Table 1 illustrates the impact of removing self generation and sales to resale cities from the CEC's electricity consumption forecast and the resulting change in per capita end use trends. Columns 1 and 2 show the original forecast and then the revised forecast less self gen and resale cities while columns 3 and 4 show the original and revised population forecasts. The resulting trends in per capita demand for the original and revised forecast are shown in columns 5 and 6.

Table 1
California Energy Commission Demand
Table A-10, CED 2003-2013
Electricity Consumption and Population for

column	1	2	3	4	5	6
	PG&E consumption- entire service territory	PG&E consumption less resale cities and selfgen	PGE area total Pop Millions	PGE -resale cities population	Base per capita usage trend	REVISED kwh Per capita use pge less resale
1980	66,197	55,540	8,584,530	7,314,020	7,711	7,594
1981	67,653	56,661	8,680,387	7,395,690	7,794	7,661
1982	66,043	55,495	8,795,961	7,494,159	7,508	7,405
1983	68,497	57,705	9,047,698	7,708,639	7,571	7,486
1984	73,341	61,490	9,283,228	7,909,310	7,900	7,774
1985	75,617	63,419	9,511,282	8,103,612	7,950	7,826
1986	74,394	62,757	9,718,568	8,280,220	7,655	7,579
1987	78,962	66,645	9,876,854	8,415,080	7,995	7,920
1988	82,141	69,408	10,047,184	8,560,201	8,175	8,108
1989	84,529	71,484	10,273,788	8,753,267	8,228	8,167
1990	86,806	73,437	10,450,149	8,903,527	8,307	8,248
1991	86,929	73,715	10,678,289	9,097,902	8,141	8,102
1992	88,326	74,858	10,874,633	9,265,187	8,122	8,080
1993	89,239	75,857	11,037,587	9,404,024	8,085	8,066
1994	89,582	76,232	11,125,465	9,478,896	8,052	8,042
1995	90,763	77,296	11,221,850	9,561,016	8,088	8,084
1996	93,464	79,718	11,331,594	9,654,518	8,248	8,257
1997	97,078	82,751	11,538,647	9,830,927	8,413	8,417
1998	95,682	81,318	11,685,349	9,955,917	8,188	8,168
1999	99,205	84,642	11,860,298	10,104,974	8,364	8,376
2000	101,980	86,941	12,069,552	10,283,258	8,449	8,455
2001	98,748	84,638	12,285,241	10,467,025	8,038	8,086
2002	97,570	83,645	12,519,186	10,666,346	7,794	7,842
2003	98,597	84,532	12,752,081	10,864,773	7,732	7,780
2004	100,940	86,485	12,984,878	11,063,116	7,774	7,817
2005	103,115	88,359	13,217,557	11,261,359	7,801	7,846
2006	105,101	90,068	13,427,236	11,440,005	7,827	7,873
2007	106,599	91,368	13,636,777	11,618,534	7,817	7,864
2008	108,699	93,191	13,846,171	11,796,938	7,850	7,900
2009	110,053	94,369	14,055,405	11,975,205	7,830	7,880
2010	111,655	95,760	14,264,508	12,153,361	7,827	7,879
2011	113,087	97,001	14,436,378	12,299,794	7,833	7,886
2012	114,441	98,179	14,608,042	12,446,052	7,834	7,888
2013	115,507	99,118	14,779,481	12,592,118	7,815	7,871
Incremental need	2004-2013	12,633	85.8%	col2/col 1		

As expected removing the sales to resale cities and the reported estimates of self generation and cogeneration production decrease the 2013 forecast by roughly 14.2% but have minimal impacts on the underlying trend in per capita usage shown in the last two columns. Use of the revised population and per capita trends will result in a slight change to the reported impact of achieving program goals on the per capita trend. For example use of the original forecast of sales and staff's recommended savings goal resulted in a savings per capita reduction of .30% per year. Use of the revised per capita trends and the same program savings goals results in a change in per capita energy use of 0.34% per year from 2004 to 2013. In any event none of these changes impact staff's development of savings targets for utility programs, these per capita trend exercises are all about how to describe the impact of a given aggregate savings target on the underlying trends in per capita energy use.

(END OF ATTACHMENT 2)

ATTACHMENT 3**Impact of Removing Self Generation Production and Sales to Resale Cities from the CEC Consumption Forecast for SCE on Per Capita Electricity Use Rates**

Table 1 illustrates the impact of removing self generation production figures and sales to resale cities from the CEC's electricity consumption forecast and the resulting change in per capita end use trends. Columns 1 and 2 show the original forecast and then the revised forecast less self gen and resale cities while columns 3 and 4 show the original and revised population forecasts. The resulting trends in per capita demand for the original and revised forecast are shown in columns 5 and 6.

Table 1
Adjustments to SCE consumption forecast at the service territory
level to remove sales to resale cities and production from self generation
and cogeneration facilities

Year	Original SCE consumption forecast service area wide	SCE self generation/co gen	Sales to Resale Cities	SCE sales less sales to resale cities and self gen/cogen	SCE Population	SCE pop less resale city pops	Base per capita usage	Revised kwh Per capita use SCE only
column	1	2	3	col1-col2-col3	5	6	col (1)/(5)	Col (4)/Col (6)
1980	59,624	289	5,870	53,754	8,411,169	7,940,144	7,089	6,770
1981	61,594	296	6,116	55,478	8,494,336	8,018,653	7,251	6,919
1982	59,501	492	5,696	53,805	8,630,444	8,147,139	6,894	6,604
1983	62,006	914	5,922	56,084	8,905,228	8,406,535	6,963	6,672
1984	66,608	1,103	6,761	59,848	9,171,726	8,658,109	7,262	6,912
1985	68,203	1,286	6,883	61,320	9,462,927	8,933,003	7,207	6,864
1986	69,496	1,428	6,943	62,553	9,821,899	9,271,873	7,076	6,747
1987	72,999	1,790	7,247	65,752	10,114,279	9,547,879	7,217	6,887
1988	76,698	3,019	7,428	69,270	10,429,728	9,845,663	7,354	7,036
1989	78,417	3,199	7,305	71,112	10,709,887	10,110,133	7,322	7,034
1990	81,673	3,308	7,901	73,772	10,869,185	10,260,511	7,514	7,190
1991	80,223	3,363	7,787	72,435	11,117,050	10,494,495	7,216	6,902
1992	82,041	3,408	7,545	74,495	11,333,016	10,698,367	7,239	6,963
1993	81,133	3,689	7,654	73,479	11,439,024	10,798,439	7,093	6,805
1994	82,800	3,730	7,952	74,847	11,543,713	10,897,265	7,173	6,868
1995	82,855	3,730	7,577	75,278	11,628,352	10,977,164	7,125	6,858
1996	85,728	3,933	8,029	77,699	11,718,087	11,061,874	7,316	7,024
1997	88,382	4,026	8,300	80,083	11,883,259	11,217,796	7,438	7,139
1998	88,434	3,987	8,189	80,245	12,022,582	11,349,317	7,356	7,070
1999	91,013	4,023	8,782	82,230	12,234,124	11,549,013	7,439	7,120
2000	96,496	3,954	9,108	87,389	12,476,975	11,778,264	7,734	7,419
2001	90,506	3,422	8,631	81,876	12,733,623	12,020,540	7,108	6,811
2002	89,418	4,344	8,537	80,881	12,944,718	12,219,814	6,908	6,619
2003	90,419	4,459	8,649	81,770	13,162,491	12,425,392	6,869	6,581
2004	92,813	4,503	8,896	83,917	13,379,774	12,630,507	6,937	6,644
2005	95,406	4,548	9,140	86,265	13,596,559	12,835,152	7,017	6,721
2006	97,637	4,594	9,352	88,285	13,808,752	13,035,462	7,071	6,773
2007	99,100	4,640	9,506	89,593	14,020,450	13,235,305	7,068	6,769
2008	100,745	4,686	9,673	91,072	14,231,644	13,434,672	7,079	6,779
2009	102,038	4,733	9,816	92,222	14,442,323	13,633,553	7,065	6,764
2010	103,395	4,780	9,963	93,432	14,655,954	13,835,221	7,055	6,753
2011	104,956	4,828	10,124	94,831	14,850,355	14,018,735	7,068	6,765
2012	106,541	4,876	10,287	96,254	15,044,289	14,201,809	7,082	6,778
2013	107,654	4,925	10,402	97,252	15,237,745	14,384,431	7,065	6,761

As expected removing the sales to resale cities and the reported estimates of self generation and cogeneration production decreases the 2013 SCE consumption forecast by roughly 10% but has minimal impacts on the underlying trend in per capita usage shown in the last two columns. This

reduction has no impact on the estimates of technical potential because the Xenergy study started with estimates of SCE customer only sales and excluded self generations. It does however have an impact on how one describes the impact of achieving a given level of program savings.

Use of the revised population and per capita trends will result in a slight change to the reported impact of achieving program goals on the per capita electricity usage trend. For example use of the original forecast of consumption and staff's recommended savings goal resulted in a per capita reduction trend of .30% per year between 2004 and 2013. Use of the revised and lower sales forecasts and the same program savings goals results in a change in per capita energy use in the SCE area of 0.47% per year from 2004 to 2013. In any event none of these changes/adjustments impact staff's development of savings targets for utility programs. These per capita trend exercises are all about how to describe the impact of a given aggregate savings target on the underlying trends in per capita energy use.

The impact of these changes in sales forecasts on the resulting growth rates in per capita electricity use is shown in Table 2 below. This table and the proceeding chart shows that changing the underlying forecasts and producing a revised per capita trends in electricity usage gives slightly different absolute values in per capita usage but the trend and growth rates are roughly comparable (as shown below).

**Table 2- SCE Growth Rates in Per capita Electricity Usage
Comparison of Base consumption forecast vs Revised Forecast**

Time Period	Base Per Capita Electricity Usage (%/year)	Revised forecast per capita electricity usage (%/Year)
2004-2008	0.5	0.5
2008-2013	0.05	-.01
2004-2013	0.3	0.3

(END OF ATTACHMENT 3)

ATTACHMENT 4

**Impact of Removing Cogeneration and Resale Cities from CEC
Forecasts of Natural Gas Consumption**

Revised Natural Gas Sales Forecasts and Resulting Per Capita Reduction Rates

Year	Original Service Area consumption forecast (PGE, SCG and SDGE)	Revised Total Consumption= less cogen and resale cities (1)	All Service territory Population	Base trend per capita	Total savings staff	Revised per capita trend (with programs)
col #	1	2	3	4	5.0	6
Unites	MM therms/yr	MM therms/yr	1000's	therm/cap	MM therms/yr	therm/cap
2002	13,755.0	11,416.7	35,302.2	323.4		323.4
2003	13,940.4	11,570.5	35,893.5	322.4		322.4
2004	14,090.1	11,694.8	36,484.8	320.5	0.0	320.5
2005	14,322.3	11,887.5	37,076.1	320.6	28.7	319.8
2006	14,475.4	12,014.6	37,627.0	319.3	60.5	316.0
2007	14,503.3	12,037.8	38,177.8	315.3	96.6	312.2
2008	14,580.0	12,101.4	38,728.7	312.5	138.6	308.5
2009	14,593.0	12,112.2	39,279.6	308.4	187.5	304.8
2010	14,650.7	12,160.1	39,830.5	305.3	238.2	301.1
2011	14,782.5	12,269.5	40,314.0	304.3	288.8	297.5
2012	14,813.9	12,295.5	40,797.6	301.4	345.5	293.9
2013	14,851.9	12,327.0	41,281.2	298.6	406.5	290.4
2014	14,869.0	12,341.3	41,770.5	295.5	472.3	287.0
Percentage Growth rates						
2005-2014	0.38%	0.38%	1.20%	-0.81%	32.32%	-1.08%
Sources		CEC forecast	CEC forecast		file=finalnumbersatgas.xls	
Notes						
-1	Adjustments to statewide consumption forecast due to removal of resale cities, cogen sales and private marketer gas shipments; Also removed population of long beach					

(END OF ATTACHMENT 4)

ATTACHMENT 5**Joint Staff Response to Parties' Comments
and Revised Natural Gas Savings Goals**

On April 20th, the CEC and CPUC staff ("Joint Staff") held a workshop on Electricity and Natural Gas Efficiency to discuss both natural gas savings goals and the methodology used to derive these goals. The following is a discussion on the natural gas portion of the savings goals.

During the workshop, Joint Staff invited interested parties to make comments on the proposed goals and methodologies. PG&E, SoCal Gas, and SDG&E, and well as the NRDC, made specific comments. The IOUs were generally willing to accept the proposed natural gas goals but expressed concerns about the possible rate impacts. An additional commenter questioned the rationale behind using different ramp-up percentages for electricity and natural gas. The NRDC stated their belief that the staff proposal did not go far enough and made a counter proposal of 750 million therms over ten years as a new goal. The NRDC new goal would achieve approximately 71% of a possible 1,057 Mth estimated maximum achievable.

The NRDC proposal is definitely a laudable goal but Joint Staff believes the proposal is too ambitious for two reasons.

1. The goal relies on the IOU's achieving 50% of the identified savings potential for Industrial non-core customers. Staff believes this is too aggressive a figure given the historic inability of some IOU's to recruit large non-core Industrial customers.
2. The required ramp-up in funding to levels 5 or 6 times current funding would be unprecedented and, more than likely, unsustainable. History has shown that there are definite limits when it comes to effectively increasing funding for efficiency programs.

However, staff felt it was reasonable to re-estimate a modified natural savings goal using the level of funding increases recommended for electricity programs. In response to comments from affected parties, staff has made revisions to the initial proposed goal of 290 Mth of savings by 2014 to simulate the higher levels of funding increase recommended for electricity efficiency programs. The following is a description of the steps staff used to revise its proposed therm savings goals and funding.

1. A sensitivity analysis was performed to gauge the effects of varying the levels of efficiency program effectiveness. **Table 1** shows the projected level of savings if the IOU's could reach 60 – 80% of the residential, commercial, and non-core industrial maximum achievable potential while simultaneously reaching 10 – 40% of the non-core market. This analysis was used as a boundary setting exercise to help set potential goals.
2. The funding level increases taken from Joint Staff's original proposal of \$750 million over 10 years were adjusted to mimic the funding % increases assumed in the electricity goal setting process. A 1% degradation factor was introduced into the therms saved per dollar spent assumption in an attempt to mimic market realities that savings efficiencies will most likely decline over time. The annual therm savings were then calculated as a product of funding levels and the new effectiveness calculations. See **Table 2** for the projections. Net savings from programs increases from 290 MM therms from the original Joint Staff recommendation to 470 MM therms in 2014 for its revised recommendation.
3. Finally, the IOU's were assigned individual funding levels and therm savings goals in the same manner as in the original paper. See **Table 3** for the projections.

Table 4 shows the revised cumulative natural gas savings impact for the individual IOUs. These values can be used to set the minimum threshold of savings to be achieved in the next program cycle by investor owned gas utilities. For example, the 2007 cumulative goal for SCGas is 53.8 MM therms. To meet this goal SCG would have to show in its filing for 2006 and 2007 programs that the cumulative effects of its 2005, 2006 and 2007 programs would save at least 53.8 MM therms by the end of 2007.

**Table 1: Sensitivity Analysis-Natural Gas Savings (in MM therms/yr in 2014)
Achieved as a Function of the Fraction of the Non-Core Potential reached
by Natural Gas Programs and the Fraction of Maximum Achievable
Level Reached for Core Customers**

% of Residential, Commercial, and Core Maximum Savings Achieved	% of Non-Core Industrial Maximum Achievable					
	10%	15%	20%	25%	30%	40%
60% of Residential, Commercial, and Core	353	380	406	433	460	513
70% of Residential, Commercial, and Core	403	430	456	483	510	563
80% of Residential, Commercial, and Core	453	479	506	533	560	613

Source: CEC

**Table 2: Revised Projection of Total IOU (PGE, SCG, and SDG&E) Funding, Program
Effectiveness, and Therm Savings Projections**

Year	Funding \$ Millions	Effectiveness Therms/ \$ Million	Annual Mth Therm Savings
2005	\$ 75	383,130	28.7
2006	\$ 84	379,299	31.8
2007	\$ 96	375,506	36.1
2008	\$ 113	371,751	42.0
2009	\$ 133	368,033	49.0
2010	\$ 139	364,353	50.7
2011	\$ 140	360,709	50.5
2012	\$ 159	357,102	56.8
2013	\$ 173	353,531	61.0
2014	\$ 188	349,996	65.7
Total	\$ 1,299		472

Source: CEC

Summary-Joint Staff's revised savings levels for the ten-year period from 2005 to 2014 is equivalent to achieving 472 million therms. This is roughly 40% of the maximum achievable savings levels estimated from the Xenergy Potential studies. Joint Staff's recommended increase in program funding and savings over the ten-year period increases the per capita reduction trend from .7% per year in the baseline forecast to a 1.2% reduction per capita per year. This is a significant level of increased conservation activity that will generate savings to society (valued at weighted average cost of gas only) equivalent to 472 million therms * \$5.69/therm= \$2.6 billion in comparison to the cumulative program cost of 1.299 million dollars.

Table 3: Individual IOU Funding Levels and Therm Savings

	SoCal Gas		PG&E		SDG&E	
Year	Funding \$ Millions	Annual Mth Therm Savings	Funding \$ Millions	Annual Mth Therm Savings	Funding \$ Millions	Annual Mth Therm Savings
2005	\$ 40.2	15.4	\$ 28.4	11.3	\$ 6.40	1.41
2006	\$ 44.9	17.0	\$ 31.7	12.5	\$ 7.20	1.56
2007	\$ 51.6	19.4	\$ 36.5	14.3	\$ 8.20	1.80
2008	\$ 60.6	22.5	\$ 42.8	15.6	\$ 9.70	2.07
2009	\$ 71.4	26.3	\$ 50.4	19.3	\$ 11.40	2.41
2010	\$ 74.6	27.2	\$ 52.7	20.0	\$ 11.90	2.49
2011	\$ 75.1	27.1	\$ 53.1	19.9	\$ 12.00	2.49
2012	\$ 85.3	30.4	\$ 60.3	22.4	\$ 13.60	2.79
2013	\$ 92.5	32.7	\$ 65.4	24.1	\$ 14.80	3.00
2014	\$ 100.7	35.3	\$ 71.2	25.9	\$ 16.10	3.23
Totals	\$ 695.6	262.9	\$ 492.5	185.3	\$111.3	23.25

Source: CEC

Table 4: Revised Cumulative Funding and Therm Savings Goals for 3, 5 and 10 years Out (2007, 2009, and 2014) for the Individual IOUs

	SoCal Gas		PG&E		SDG&E	
	Funding in \$ millions	Therm Savings In MM therms	Funding in \$millions	Therm Savings In MM therms	Funding in \$millions	Therm Savings in MM therms
3 Year	\$ 136.5	53.8	\$ 96.6	38.1	\$ 21.8	4.8
5 Year	\$ 268.1	104.5	\$ 189.8	73	\$ 42.9	9.3
10 Year	\$ 695.6	263.0	\$ 492.5	185.3	\$ 111.3	23.3

Source: CEC

(END OF ATTACHMENT 5)

ATTACHMENT 6

Joint Staff's Analysis of Rate Impacts Associated with Proposed Natural Gas Program Savings Goals

Some parties at the workshop requested that Joint Staff perform a rate impact analysis of its proposed increased in program savings and funding. There are really three types of information requested:

- The rate increase required to fund the programs= $\text{Funding} / \text{Total retail gas sales in year } x$
- The gross rate impact= $\text{Gas saved (therms)} * \text{Weighted Average Cost/ therm (retail) in year } x / \text{Total retail sales in year } x$
- The net rate impact= $\text{Gas saved} * (\text{rate increase for program cost-rate decrease from gas saved @commodity prices}) / \text{total retail sales in year } x$.

Table 1 presents all three calculations for the Joint Staff's original case and its revised case. The results suggest that the rate increase to fund the program of .0.6 cents/therm is counteracted by accumulated commodity savings by 2006. The net rate impact is calculated to be a negative 2.6 cents/ therm on average, e.g., extra savings valued at commodity price of gas are higher than the accumulated program costs. These values are all shown in Table 1.

We note that the relative rate impact of pursuing more efficiency programs will always be positive as long as the cost of conserved gas in \$/therm is less than the additional gas that would have to be purchased at the margin if the savings did not occur. Joint Staff estimates the cost of conserved natural gas will range from 29 cents/therm to 38 cents/therm over the next ten years. This compares to the weighted average cost of gas of 60 cents per therm over the last two years or the average retail price in 2003 of 70 cents per therm. This cost of conserved energy from 30 to 40cents/ therm is also much cheaper than the forecasted cost of purchasing gas for residential customers, which is forecast for the PG&E and So Cal Gas areas to increase from 67 cents per therm in 2003 to 74 cents/ therm in 2014 (real 2002 dollars). Thus, Joint Staff is very confident that the program savings and cost of conserved energy they represent are likely to have a positive rate impact in the short and long term.

Joint Staff suggests that the Commission order each utility to provide its own estimate of both the rate increase needed to fund the programs and the net rate impacts of the programs as part of its program planning filing in mid 2005 for 2006 to 2008 programs.

Table 1**Rate impacts of the Projected Increase in Funding for Natural Gas Efficiency**

	Program funding	Program Savings	Baseline NG sales to retail customers- statewide	Rate increase required to fund program	Present value of Savings @wacog (1)	Net Rate Increase-(col 1- col 4)/col 2	Year	WACOG system average forecast(1)	Preser Value wacog
	\$ millions	Mm therms	MM therms	\$/therm	\$ millions	\$/therm		\$/MCF	\$/MCF
2004			11694.8						
2005	74.9	46.8	11887.5	0.0063	21.28	0.005	0	4.55	
2006	83.7	78.5	12014.6	0.0070	58.03	0.002	1	4.68	
2007	96.2	114.7	12037.8	0.0080	112.04	-0.001	2	4.71	
2008	112.9	156.6	12101.4	0.0093	186.60	-0.006	3	4.76	
2009	133.1	205.6	12112.2	0.0110	286.12	-0.013	4	4.84	
2010	139.1	256.3	12160.1	0.0114	411.19	-0.022	5	4.88	
2011	140.1	306.8	12269.5	0.0114	563.07	-0.034	6	4.95	
2012	159.0	363.6	12295.5	0.0129	745.97	-0.048	7	5.03	
2013	172.6	424.6	12327.0	0.0140	961.67	-0.064	8	5.08	
2014	187.8	472.4	12341.3	0.0152	1204.94	-0.082	9	5.15	
					pv over 10 years	-0.026			3
column numbers	1	2	3	4	5	6	7	8	

(1) CEC weighted average cost of gas (WACOG) forecast from 2003 IEPR for system average gas-PG&E

Note a negative (-) rate increase is a rate reduction

(2) discount rate= 4%/year real

Thus implementing the increased funding and savings called for by staff will
result in a net decrease of 2.6 cents per therm

(END OF ATTACHMENT 6)